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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/816,891	03/13/97	OTA M	503.32492VX1

LM02/0806
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EXAMINER

NGUYEN, C

ART UNIT PAPER NUMBER

2775

DATE MAILED: 08/06/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

08/816,891

Applicant(s)

OTA et al

Examiner

CHANH NGUYEN

Group Art Unit

2775

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 (THREE) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on March 13, 1997.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 17-34 is/are pending in the application.
- Of the above claim(s) 23-33 is/are withdrawn from consideration.
- ☐ Claim(s) is/are allowed.
- ☒ Claim(s) 17-22 is/are rejected.
- ☐ Claim(s) is/are objected to.
- ☐ Claim(s) are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____.
 - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of References Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

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DETAILED ACTION

Response to Amendment

1. The preliminary amendment filed on March 13, 1997 has been entered and considered by Examiner.

Election/Restriction

2. Applicant withdraw the election of species A as elected in parent application 08/139,094 by canceling claim 1-16. It appears that Applicant elects new species of figure 22. Claims 23-33 are withdrawn from consideration since claims 23-33 are not readable on species of figure 22. For example, the limitation "applying bias signals to scanning lines" as recited in claim 24 as well as the limitation "bias signal generation circuit includes a scanning generating circuit" as recited in claim 23 are not readable on species of figure 22.

Specification

3. A substituted specification is required because it is difficult to enter a long amendments in the specification (preliminary amendment filed on August 18, 1994) and the substituted specification can reduce the number of printing errors. Applicant should not provide the claims and the Abstract of the Disclosure since the claims and the Abstract of the Disclosure have been

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entered. The specification must be accompanied with a statement that it contains no new matter and a marked-up copy of the original specification showing additions and deletions.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 17-22 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuo et al (U.S. Patent No. 5,666,133; hereinafter simply referred to as Matsuo) in view of Kimura et al (U.S. Patent No. 5,253,091; hereinafter briefly referred to as Kimura).

As to claim 17, Matsuo discloses a matrix panel display apparatus including plural signal lines (9) and plural scanning lines (10) intersecting each other, and near intersection point, a

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picture element (7) including a picture element electrode (5), a counter electrode (11), a display medium (liquid crystal) disposed between the picture element electrode (5) and counter electrode (7) and a transistor (4) for applying image signals (V_s). Matsuo teaches a plurality of storage capacitances (8), each connected to a respect to one of picture elements (7). Matsuo teaches a picture signal generating means (2) for dividing plural picture elements (7) into two groups (i.e. a plurality of columns or groups are formed by column conductors 9). Matsuo teaches that the image signal V_s is inverted in polarity every one horizontal scanning period as well as every cycle; see column 1, line 63 through column 2, line 23 and column 6, lines 17-21. Thus, Matsuo clearly teaches the image signal (V_s) applied to a first group or a first column being inverted form of the image signal applied to the signal line of a second column or second group.

Matsuo teaches that the counter electrode signal (V_t) is a signal applied to the counter electrode as periodically inverted in polarity in synchronization with inversion in polarity of the image signal V_s ; see column 6, lines 22-30 and see figure 4, waveform V_t and $V_s(m)$. This reads on the claimed "bias signal generating means" as recited in the claim. Matsuo does not mention the plural picture elements selected at the same time by the picture signal generating means. In the same field of endeavor, Kimura teaches that all the TFT's 4 connected to a row which is driven are turned ON. The first data signal V_{dm} and V_{dm+1} are simultaneously applied to the column conductors D1 and D2, respectively during a frame cycle T; see figure 5a-5c and see column 3, lines . Thus, Kimura clearly teaches plural picture element selected at the same time in the picture signal generating means (2-3). Therefore, it would have been obvious to one of

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ordinary skill in the art at the time the invention was made to have used the teaching of selecting plural picture elements at the same time by simultaneously applying the data signal to the column conductors as taught by Kimura to the picture signal generating means of Matsuo so as to reduce screen flicker; see column 4, lines 34-41 of Kimura.

As to claim 34, this claim differs from claim 17 in that claim 34 is method whereas claim 17 is apparatus. Thus claim 34 is analyzed as previously discussed with respect to claim 17.

As to claim 18, Matsuo clearly teaches display medium being liquid crystal ; see column 4, lines 59-60.

As to claim 19, both Matsuo and Kimura teach the polarity of image signals reversed in successive frames. For example, figure 5b and 5c of Kimura clearly show the claimed limitation reversed in successive frames.

As to claim 20, since the pixels of Matsuo and Kimura are arranged in a matrix of rows and columns. Thus the number of pixels in one column or first group is equal to the number of pixels in another column or second group.

As to claim 21, the limitation "every n column elements is alternately assigned to the first group of picture elements and the second group of picture elements, respectively" reads on odd columns and even columns as taught by Kimura and Matsuo.

As to claim 22, Matsuo clearly teaches transistor (4) having three terminals, first terminal is connected to scanning line (10), second terminal is connected to signal line (9) and third

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terminal is connected to picture element electrode (5) and storage capacitances (Cvc). Matsuo clearly teaches the limitation two group bias signals (Vt) applied to the storage capacitance (Cvc).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mizukata et al (U.S. Patent No. 5,657,039) is cited to teach different waveforms applied to the liquid crystal display.

Inquiries

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chanh Nguyen whose telephone number is (703) 308-6603.

The fax phone number for the organization where this application or proceeding is assigned is (703) 308-9051.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

CN
C.Nguyen

July 30, 1998


CHANH NGUYEN
PRIMARY EXAMINER